

REMARKS

Claim 47 was added. No new matter was added. Thus, claims 13, 16-18, 20, 32, 35, 36 and 38-47 are pending. Independent claims 13 and 35 have been amended to distinguish over the prior art of record. No new matter was added. Accordingly, Applicant respectfully submits that the claims of the present application are in condition for allowance.

Claims Amendments

By way of background, house dust mites and bedmites (HDM) are known to thrive and proliferate (ie., grow by rapid production of new offspring) in bedding, upholstered articles and fibrous floor coverings due to an ample food supply of dead skin fragments (dander) that is continually shed by humans and/or pets on such articles. The excretions of HDM provide a major source of allergies and aggravate the conditions of asthma sufferers.

The present invention seeks to manufacture bedding, upholstered articles and fibrous floor coverings that enable improved living conditions for allergy and asthma sufferers. To accomplish this goal, the articles according to the present invention provide an environment in which HDM cannot thrive and proliferate (ie., an environment in which HDM starve).

Dead skin fragments, as shed, have a very low moisture content and a high fat content. As such, they are a poor food source for HDM in their as-shed condition. However, certain microscopic fungi grow on the dead skin fragments, absorb moisture from the atmosphere, and raise the moisture content of the dead skin fragments. In addition, the fungi reduce the fat content of the dead skin fragments and are responsible for generating B-group vitamins and

ergosterol. Thus, the dead skin fragments, as modified by particular fungi, become a suitable food source for HDM.

The present invention provides a method of controlling the proliferation of HDM in bedding, upholstered articles and fibrous floor coverings by incorporating a neutral organic fungicidal compound into a manmade fiber during the course of its manufacture. The compound is located within the structure of the fiber and has anti-fungal activity against fungi of at least one of the groups aspergillus glaucus and aspergillus restrictus. The fiber is utilized to manufacture the bedding, upholstered articles and fibrous floor coverings.

The fungicidal compound does not kill HDM. Rather, it kills the fungi which are responsible for converting dead skin fragments into a suitable HDM food source. Thus, by eliminating a major HDM food source, the articles manufactured according to the present invention “control” HDM by essentially starving HDM that attempt to colonize the articles. This thereby creates an environment unsuitable for HDM proliferation.

An acaricide, by definition, is a chemical compound or substance that is lethal to mites. The fungicidal compound, spinning dope, manmade fiber, and product of the present invention do not contain, carry or have an acaricide. The limitation with respect to the absence of an acaricide has been added into independent claims 13 and 35 of the present application. New independent claim 47 also includes this limitation.

Applicant respectfully submits that this limitation is not new matter. The present application, as filed, states on page 5, lines 10-12, that the “Example” is an acrylic fiber that contains 0.4% tolnaftate and that was prepared by the method disclosed in Example 1 of GB 2309461. The GB ‘461 reference, of which the Examiner is aware, states that an amount of

milled tolnaftate is blended with an acrylic dope (93% acrylonitrile, 6% methyl acrylate and 1% AMPS) to provide a dope with 0.5% tolnaftate. An acaricide is not included in the list of ingredients stated in Example 1 of the GB '461 reference, and there is no disclosure in the present application of any procedure which would lead to the addition of an acaricide.

Further, the present application, as filed, states on page 5, lines 12-14, that the "Example" is commercially available under the trademark AMICOR AF. The use of AMICOR AF, AMICOR AB and a 50/50 combination of AMICOR AF and AMICOR AB is also disclosed in Table 2 on page 6 of the present application. In the Declaration of Roland Cox executed on January 12, 2004 and submitted to the U.S. Patent and Trademark Office on January 20, 2004, it is stated under oath that AMICOR AF is an acrylic fiber that incorporates tolnaftate and AMICOR AB is an acrylic fiber that incorporates triclosan. Neither includes an acaricide.

Accordingly, Applicant respectfully submits that the limitation that the present invention does not contain an acaricide is inherently implied by the present application, as filed. No new matter was added. See pages 5 and 6 and Table 2 of the present application, as filed, as well as Example 1 of GB '461 and the previous filed Declarations of Cox.

Claim Rejection under 35 USC §103(a)

In the FINAL Office Action dated April 19, 2006, the Examiner rejects claims 13, 16-18, 20, 32, 35, 36 and 38-46 under 35 USC §103(a) as being obvious over International PCT Publication No. WO 97/24484 of Kluft et al. in view of one or more of UK Patent Application No. GB 2,248,774 A of Barton et al., U.S. Patent No. 3,959,556 issued to Morrison, U.S. Patent No. 3,284,395 issued to Lowes, and UK Patent Application No. GB 2,309,461 A of Cox et al.

The primary reference, Kluft et al., discloses an article that is used to cover beds or mattresses and that contains at least one acaricide as an active ingredient. (See the Abstract, lines 1-3; page 4, lines 19-20; page 6, lines 1-4; and claim 2 of the English translation of Kluft et al.) Kluft et al. state that “one must kill the house dust mites in order to prevent allergies.” (See page 3, lines 2-3, of the English translation.)

Applicant respectfully submits that Kluft et al. teach away from the claims of the present application. With respect to the use of a bactericide and/or fungicide without an acaricide, Kluft et al. teach on page 4, lines 2-9, of the English translation that:

“... they do not offer any solution that could have as its target a fight against house dust mites, ... In this respect one should mention that the house dust mite is an arachnid, that is a being that is not comparable to an insect nor a bacteria, nor a fungus and that, for example, some products that are used as insecticides, bactericides or fungicides have very little effect, or none in this situation.” [Emphasis Added.]

On page 4, lines 19-20, Kluft et al. state that:

“The house dust mite biocidal agent includes as the active ingredient at least one acaricide.”

Therefore, Kluft et al. teach that a fiber, and product made from the fiber, must have an acaricide to have any effect on the fight against mites and the ability to prevent allergies. This is clearly stated by the Kluft et al. reference.

Accordingly, Applicant respectfully submits that regardless of which secondary reference the Examiner combines with Kluft et al., the result is that one of skill in the art would create a fiber containing an acacicide. The present invention achieves an unexpected result when viewed in light of the teachings of Kluft et al. since it has been proved by evidence submitted with previous Declarations of Cox that the present invention is effective at controlling mites despite not containing an acacicide.

For at least this reason, Applicant submits that claims 13, 35 and 47 are patentable and non-obvious over the Kluft et al. reference in combination with any of the cited secondary references. Kluft et al. fail to disclose a step of producing a fiber and product without an acacicide. Kluft et al. teach away from producing such a fiber and product for mite control and state that such a product would have little or no effect on mites or preventing allergies. “Teaching away” is the antithesis of the art suggesting that the person of ordinary skill go in the claimed direction. “Teaching away” from the art is a *per se* demonstration of lack of *prima facie* obviousness.

Further, the secondary reference, GB 2248774 A of Barton, is discussed in the specification of Kluft et al. on page 3, line 12, to page 4, line 20, of the English translation. With respect to Barton, Kluft et al. state that “they do not offer any solution that could have as its target a fight against house dust mites.” In addition, Kluft et al. also state that “the known techniques also have an unsound fixation.” Accordingly, one of skill in the art following the teachings of Kluft et al. would avoid modifying Kluft et al. in view of Barton based on the statements expressly made in the Kluft et al. reference.

None of the secondary references, Barton, Lowes, Morrison or Cox (GB '461), discloses a method for controlling house dust mites and bedmites. This is confirmed by the specification of Kluft et al.. Barton and Lowes relate to inhibiting the growth of bacteria, not fungi. Cox (GB '461) is limited to the production of socks, athletic apparel, awnings and tents. The Morrison patent relates to controlling body odors and infections (see column 1, lines 24-28, of Morrison).

Accordingly, Applicant respectfully requests reconsideration and removal of the §103(a) obviousness rejections of claims 13, 16-18, 20, 32, 35, 36 and 38-46.

Conclusion

In view of the above amendments, Applicant respectfully submits that the rejections have been overcome and that the present application is in condition for allowance. Thus, a favorable action on the merits is therefore requested.

Please charge any deficiency or credit any overpayment for entering this Amendment to
our deposit account no. 08-3040.

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